

Amendments to the Claims

After the heading "CLAIMS" and before the beginning of the claims, please insert the words: -- What is claimed is:

Please amend the claims as follows:

1. (amended) A voltage-controlled oscillator [(VCO)] oscillating at an oscillator frequency comprising:

[-] an LC-resonant circuit with at least one inductor [(L<sub>1</sub>)]

[-] a controllable switching means [(S<sub>v</sub>)] which is arranged in the LC-resonant circuit in such a way that it periodically has a conducting and a non-conducting state at the oscillator frequency and has a control input [(V<sub>con</sub>)] connected to a variable dc voltage, the control voltage U<sub>con</sub> [,] and

[-] a further inductor [(L<sub>2</sub>)] which can be periodically switched in parallel or in series with the inductor [(L<sub>1</sub>)] by way of the switching means [(S<sub>v</sub>)] actuated at the oscillator frequency.

2. (amended) The [A] voltage-controlled oscillator of claim 1, further comprising: [(VCO) as set forth in claim 1 characterized in that] a further inductor [(L<sub>2</sub>)] can be periodically connected in parallel or in series with a plurality of inductors [(L<sub>1</sub>)] by way of a respective controllable switching means [(S<sub>v</sub>)] at the oscillator frequency and the controllable switching means is [(S<sub>v</sub>)] controllable by a variable control voltage U<sub>con</sub>.

3. (amended) The [A] voltage-controlled oscillator of claim 1, wherein: [(VCO) as set forth in claim 1 characterized in that] the relationship of the duration of the conducting state and the duration of the non-conducting state of the switching means [(S<sub>v</sub>)] within an oscillation period of the oscillator varies, depending [(VCO) is variable in dependence] on the control voltage U<sub>con</sub>.

4. (amended) The [A] voltage-controlled oscillator of claim 1, wherein: [(VCO) as set forth in one or more of the preceding claims characterized in that] the time-averaged effective inductance varies, depending [is variable in dependence] on the control voltage U<sub>con</sub> according to [in accordance with] the relationship of the duration of the conducting state and

the duration of the non-conducting state of the switching means  $[(S_v)]$  within an oscillation period of the oscillator  $[(VCO)]$ .

5. (amended) The [A] voltage-controlled oscillator of claim 1, wherein: [(VCO) as set forth in one or more of the preceding claims characterized in that] the controllable switching means comprises  $[(S_v)]$  are] switching transistors [, in particular MOSFETs].

6. (amended) The [A] voltage-controlled oscillator of claim 17, wherein: [(VCO) as set forth in one or more of the preceding claims characterized in that gate terminals (G) of] the MOSFETs have gate terminals that are connected to the control input  $[(V_{con})]$  of the control voltage  $U_{con}$ .

7. (amended) The [A] voltage-controlled oscillator of claim 6, wherein: [(VCO) as set forth in one or more of the preceding claims characterized in that source terminals (S) of] the MOSFETs have source terminals that are connected to parts of the circuit arrangement carrying the oscillator frequency.

8. (amended) The [A] voltage-controlled oscillator of claim 1, wherein: [(VCO) as set forth in one or more of the preceding claims characterized in that] the oscillator  $[(VCO)]$  is of a CMOS or bipolar technology.

9. (amended) The [A] voltage-controlled oscillator of claim 1, wherein: [(VCO) as set forth in one or more of the preceding claims characterized in that] the oscillator  $[(VCO)]$  is used in frequency synthesizers for wide-band systems and for multi-band uses and for clock production and clock recovery in high-speed circuits such as for example microprocessors and memories.

10. (amended) The [A] voltage-controlled oscillator of claim 1, wherein: [(VCO) as set forth in one or more of the preceding claims characterized in that in addition to the voltage-controlled inductance] a voltage-controlled capacitance is integrated in the oscillator  $[(VCO)]$ , which is connected to a tuning voltage  $U_{tune}$  by way of a further control input, the tuning input  $[(V_{tune})]$ .

11. (amended) The [A] voltage-controlled oscillator of claim 10, wherein: [(VCO) as set forth in claim 10 characterized in that] the voltage-controlled capacitance is embodied by means of at least one variable capacitor diode, [in particular by means of two p-MOSFETs (M<sub>1</sub>, M<sub>2</sub>)], wherein the effective capacitance depends on the tuning voltage U<sub>tune</sub> at the tuning input [(V<sub>tune</sub>)].

12. (amended) The [A] voltage-controlled oscillator of claim 10, wherein: [(VCO) as set forth in one or more of the preceding claims characterized in that] the tuning input [(V<sub>tune</sub>)] of the oscillator [(VCO)] is connected to an output of a phase-locked loop [(PLL)] and the output of the voltage-controlled oscillator [(VCO)] is connected to an input of the phase-locked loop [(PLL)].

13. (amended) The [A] voltage-controlled oscillator of claim 1, wherein: [(VCO) as set forth in one or more of the preceding claims characterized in that] the noise of the control voltage at the control input [(V<sub>con</sub>)] is blocked out by means of a high capacitance between the control input [(V<sub>con</sub>)] and ground.

14. (amended) The [A] voltage-controlled oscillator of claim 10, wherein: [(VCO) as set forth in one or more of the preceding claims characterized in that] the tuning input [(V<sub>tune</sub>)] of the voltage-controlled oscillator [(VCO)] is connected to the output of a [the] phase-locked loop [(PLL; PLL1)] and the control input [(V<sub>con</sub>)] of the voltage-controlled oscillator [(VCO)] is connected to an output of a further phase-locked loop [(PLL2)].

Please add the following new claims:

15. (new) The voltage-controlled oscillator of claim 2, wherein:  
the time-averaged effective inductance varies, depending on the control voltage U<sub>con</sub> according to the relationship of the duration of the conducting state and the duration of the non-conducting state of the switching means within an oscillation period of the oscillator.

16. (new) The voltage-controlled oscillator of claim 3, wherein:  
the time-averaged effective inductance varies, depending on the control voltage U<sub>con</sub> according to the relationship of the duration of the conducting state and the duration of the non-conducting state of the switching means within an oscillation period of the oscillator.

17. (new) The voltage-controlled oscillator of claim 5, wherein:  
the switching transistors are MOSFETs.
18. (new) The voltage-controlled oscillator of claim 2, wherein:  
the controllable switching means comprises switching transistors.
19. (new) The voltage-controlled oscillator of claim 18, wherein:  
the switching transistors are MOSFETs.
20. (new) The voltage-controlled oscillator of claim 3, wherein:  
the controllable switching means comprises switching transistors.
21. (new) The voltage-controlled oscillator of claim 20, wherein:  
the switching transistors are MOSFETs.
22. (new) The voltage-controlled oscillator of claim 4, wherein:  
the controllable switching means comprises switching transistors.
23. (new) The voltage-controlled oscillator of claim 22, wherein:  
the switching transistors are MOSFETs.
24. (new) The voltage-controlled oscillator of claim 19, wherein:  
the MOSFETs have gate terminals that are connected to the control input of the  
control voltage  $U_{\text{con}}$ .
25. (new) The voltage-controlled oscillator of claim 21, wherein:  
the MOSFETs have gate terminals that are connected to the control input of the  
control voltage  $U_{\text{con}}$ .
26. (new) The voltage-controlled oscillator of claim 23, wherein:  
the MOSFETs have gate terminals that are connected to the control input of the  
control voltage  $U_{\text{con}}$ .

27. (new) The voltage-controlled oscillator of claim 24, wherein:  
the MOSFETs have source terminals that are connected to parts of the circuit arrangement carrying the oscillator frequency.

28. (new) The voltage-controlled oscillator of claim 25, wherein:  
the MOSFETs have source terminals that are connected to parts of the circuit arrangement carrying the oscillator frequency.

29. (new) The voltage-controlled oscillator of claim 26, wherein:  
the MOSFETs have source terminals that are connected to parts of the circuit arrangement carrying the oscillator frequency.

30. (new) The voltage-controlled oscillator of claim 27, wherein:  
the oscillator is of a CMOS or bipolar technology.

31. (new) The voltage-controlled oscillator of claim 28, wherein:  
the oscillator is of a CMOS or bipolar technology.

32. (new) The voltage-controlled oscillator of claim 29, wherein:  
the oscillator is of a CMOS or bipolar technology.

33. (new) The voltage-controlled oscillator of claim 10, wherein:  
the voltage-controlled capacitance is embodied by means of at least one variable capacitor diode, wherein the effective capacitance depends on the tuning voltage  $U_{tune}$  at the tuning input.

34. (new) The voltage-controlled oscillator of claim 33, wherein:  
the tuning input of the oscillator is connected to an output of a phase-locked loop and the output of the voltage-controlled oscillator is connected to an input of the phase-locked loop.